

REMARKS

Claims 17 and 27 are amended. No new subject matter is added. Claims 1-30 remain pending in the application. Reconsideration and allowance of the pending claims is requested in light of the following remarks.

In the Specification

The Office action requests a new abstract because the description in the abstract is allegedly not related to statistics collection as indicated in the title. To the contrary, the third sentence of the Abstract indicates that actions such as updating counters in a counter table are taken when a rule evaluates true. Thus, the existing abstract is related to statistics collection.

A new abstract is also requested because the description in the abstract is allegedly not related to the problem solved by the invention as set forth in the background of the invention. However, a patent need not teach, and preferably omits, what is well-known in the art. MPEP 2164.01. U.S. Patent No. 7,089,352 to Regev (hereafter, “Regev”) teaches that the collection of network device or network traffic statistics is helpful in alerting a network administrator to possible configuration errors, malfunctions, or attacks (column 2, lines 8-29). Thus, the existing abstract, which is related to statistics collection, is also related to the problem solved by the invention as set forth in the background of the invention.

A new abstract is also requested because the existing abstract “fails to clarify what each of the rule[s] in the rule set represents.” However, according to the abstract “each rule specif[ies] a packet offset, a data pattern to be found at that offset, and an action to be taken if that data pattern is found.” Further elaboration can be found in the written description, and a review of MPEP 608.01(b)(C) indicates that conciseness rather than verboseness is desired from the abstract of the disclosure. For the above reasons, it is requested that the objections to the Abstract of the disclosure be withdrawn.

The Office action further states that “the invention as claimed does not appear to solve [the problem outlined in the background of the invention] and “[t]he claimed invention is directed to a network processor and method processing packets in according with rules stored in a CAM.” As indicated above, statistics collection is related to solving the problem outlined in the background of the invention. Furthermore, the applicant disagrees with and specifically refutes the Office action’s characterization of the invention. During examination, the USPTO is

to give the claims their broadest reasonable interpretation in light of the specification. MPEP 2111.01.

The Office action requested a summary of the invention. Thus, the specification is amended to include a summary of the invention. No new subject matter is added.

Allowable Subject Matter

Claims 21 and 26 are objected to as being dependent upon a rejected base claim, but are otherwise indicated as worthy of receiving favorable consideration if they were rewritten in independent form. While the indication of allowable subject matter is appreciated, at this time claims 21 and 26 are maintained in their present form so that the comments presented below may be fully considered.

Claim Rejections – 35 U.S.C. § 112

Claims 17 and 20 are rejected under 35 U.S.C. 112, second paragraph, a being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17 is amended in a manner that is believed to address the stated concerns. Regarding claim 20, it is believed that the claim is clearly related to claim 16 because it describes an operation on a requested data pattern in a packet rule request, where packet rule requests were first recited in claim 16.

Claim Rejections – 35 U.S.C. § 102

Claims 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Regev. The applicant respectfully disagrees. In order to anticipate a claim, a single reference must show the identical invention in as complete detail as contained in the claim. MPEP 2131.

Claim 10 recites a local memory capable of storing a rule table, the rule table organized with entries comprising a packet offset, a data pattern, and an action. The Office action alleges that Regev's Content Addressable Memory (CAM) 100 corresponds to the recited local memory. However, Regev fails to disclose that the CAM 100 is capable of storing a rule table. Regev also fails to disclose that the rule table is organized with entries comprising a packet offset, a data pattern, and an action. For at least this reason, Regev fails to anticipate claim 10 because it does

not show the identical invention in as complete detail as contained in the claim. Regev fails to anticipate claims 11-15 at least because these claims inherently contain the features of claim 10.

Claim Rejections – 35 U.S.C. § 103

Claims 1-9, 16-20, 22-25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regev in view of Intel® IXP1200 Network Processor Datasheet; *Intel Corporation, December 2001, pages 9-144* (hereafter, “IXP1200 Datasheet”). The applicant respectfully disagrees.

Page 3 of the Office action states that the IXP1200 Datasheet is “(Applicant’s cited prior art).” Page 4 of the Office action states that “[a]s admitted by applicant, Intel IXP12xx network processor for use in network processing is well known in the art.” This apparently refers to paragraph 0017 of the applicant’s disclosure, which states that “[n]etwork processor 30 in this embodiment can be, for example, an Intel IXP1200-series or IXP2400-series network processor, manufactured by Intel Corporation.”

The applicant would point out that “the filing of an information disclosure statement *shall not* be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability.” MPEP 609, emphasis added. Thus, the mere filing of an IDS does not constitute an admission that the references contained therein are prior art.

Furthermore, several conditions must be met for subject matter identified in the specification to be treated as admitted prior art. The subject matter must be identified as work that was done by another, and also the subject matter must be identified as “prior art.” MPEP 2129(I) and 2129(II). Neither one of these conditions are met in the applicant’s specification.

The applicant submitted an information disclosure citing the IXP1200 Datasheet, and the applicant’s specification identifies the IXP1200-series and IXP2400-series as network processors manufactured by Intel that are suitable for use with embodiments of the invention. While the IXP1200 Datasheet, the IXP1200-series, and the IXP2400-series network processors may be considered prior art against the applicant’s disclosure under one or more statutory provisions of 35 U.S.C. 102, it should be clarified that, for the reasons presented above, they cannot be considered prior art by reason of any alleged admission on the part of the applicant.

Regarding claim 1, the claim recites writing, to a shared memory accessible by multiple packet processing engines, a dynamic packet rule set, each rule specifying a packet offset, a data

pattern, and an action code. The Office action alleges at page 4 that Regev's Content Addressable Memory (CAM) 100 (FIG. 1) corresponds to the recited shared memory and that the plurality of CAM entries 130 (FIG. 1; column 3, line 21) correspond to the recited dynamic packet rule set.

Regev's CAM entries 130 include a first data storage portion DATA 131 for holding data and a second data storage portion COUNTER 132 for holding a counter value (FIG. 1; column 3, lines 22-25). The CAM entries 130 further include a match detector circuit 133 that asserts a MATCH signal on line 134 if the DATA 131 and COUNTER 132 content match the search expression stored in comparand 120 (FIG. 1; column 3, lines 32-36). Claim 1 requires that the recited packet rules be written to the shared memory, so Regev's match detector circuit 133 and the MATCH signal that is asserted on line 134 can not be considered a rule (or data) that is written to the CAM entry 130.

Contrary to claim 1, Regev fails to disclose that any part of the first data storage portion DATA 131 or the second data storage portion COUNTER 132 specifies a packet offset. Also contrary to claim 1, Regev fails to disclose that any part of the first data storage portion DATA 131 or the second data storage portion COUNTER 132 specifies an action code. The IXP1200 Datasheet fails to cure these deficiencies of Regev. For at least these reasons, the combination of Regev and the IXP1200 Datasheet fails to establish *prima facie* obviousness for claim 1 because it does not disclose all the features recited in the claim. MPEP 2143.03. Claims 2-9 are allowable over the combination of Regev and the IXP1200 Datasheet at least because any claim that depends from a nonobvious independent claim is also nonobvious. MPEP 2143.03.

Regarding claim 16, the claim recites configuring a set of packet processing engines to sequence through the packet rule set, retrieving one of the packet rules from the first memory region and comparing packet data from a received packet, at the offset specified in the retrieved packet rule, to the data pattern specified in the retrieved packet rule. Page 4 of the Office action alleged that the recited packet rule set corresponds to Regev's Content Addressable Memory (CAM) entries 130. As will be explained below, the recited method of accessing the packet rule set is entirely opposite Regev's description of how a CAM works.

According to Regev, CAMs are organized differently from other memory devices such as DRAM and SRAM (column 1, lines 46-47). During a memory access for a conventional memory device, the user supplies an address and reads or gets data stored at the specified address

(column 1, lines 49-51). In contrast to conventional memory devices, in a CAM the user supplies the data and gets back an address if there is at least one match found in the CAM (column 2, lines 4-6). Each one of Regev's CAM entries 130 is configured to assert a MATCH signal on line 134 if the DATA 131 and COUNTER 132 content match the search expression stored in comparand 120 (FIG. 1; column 3, lines 34-36).

Thus, Regev's CAM is configured to simultaneously compare all CAM entries 130 with the search expression stored in the comparand 120 and assert a MATCH signal on the corresponding line 134 if there is a match. Consequently, Regev fails to teach retrieving one of the packet rules from the first memory region and comparing packet data from a received packet, at the offset specified in the retrieved packet rule, to the data pattern specified in the retrieved packet rule. The IXP1200 Datasheet fails to cure these deficiencies of Regev. For at least this reason, the combination of Regev and the IXP1200 Datasheet fails to establish *prima facie* obviousness for claim 16 because it does not disclose all the features of the claim. Claims 17-20 are allowable at least because any claim that depends from a nonobvious independent claim is also nonobvious.

Claim 22 recites dynamically accepting packet rule requests at a core processor, and the core processor retrieving statistics from the counters in the second memory region for distribution outside of the network processor. The Office action at page 4 identifies Regev's processor 170 as the recited network processor. Regev teaches that the processor 170 is used to post process counter values and output the result of its processing on line 171 (FIG. 1; column 3, lines 48-61). However, claim 22 recites that it is the core processor, not the network processor, that retrieves statistics from the counters. Furthermore, if Regev's processor 170 is alternately considered the recited core processor, Regev additionally fails to disclose that the processor 170 dynamically accepts packet rule requests. The IXP1200 Datasheet fails to cure these deficiencies of Regev.

For at least this reason, the combination of Regev and the IXP1200 Datasheet fails to establish *prima facie* obviousness for claim 22 because it does not disclose all the features of the claim. Claims 23-26 are allowable over the combination of Regev and the IXP1200 Datasheet at least because any claim that depends from a nonobvious independent claim is also nonobvious.

Claim 27 is amended for clarity and to add a feature that is fully supported by the original application at, e.g., FIG. 2. Claim 27 is directed toward an article of manufacture comprising

computer-readable media containing instructions that, when executed by a network processor, cause that network processor to perform a method that includes writing, using a core processor of the network processor, a dynamic packet rule set to a shared memory of the network processor that is accessible by packet processing engines and the core processor, each rule of the dynamic packet rule set.

Contrary to the above feature, Regev fails to teach that the processor 170 writes a dynamic packet rule set to the CAM device 100. See, e.g., FIG. 1 and column 3, lines 48-61. The IXP1200 Datasheet fails to cure this deficiency of Regev. For at least this reason, the combination of Regev and the IXP1200 Datasheet fails to establish *prima facie* obviousness for claim 27 because it does not show all the features recited in the claim. Claims 28-30 are allowable over the combination of Regev and the IXP1200 Datasheet at least because any claim that depends from a nonobvious independent claim is also nonobvious.

Conclusion

For the foregoing reasons, reconsideration and allowance of the pending claims is requested. Please telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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